



PATENT COOPERATION TREATY
PCT
INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P02044	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA416)																									
International application No. PCTNO 03/00301	International filing date (<i>day/month/year</i>) 29.08.2003	Priority date (<i>day/month/year</i>) 09.09.2002																								
International Patent Classification (IPC) or both national classification and IPC B01D17/025																										
Applicant NORSK HYDRO ASA et al.																										
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>																										
<p>3. This report contains indications relating to the following items:</p> <table style="width: 100%;"><tr><td style="width: 5%;">I</td><td style="width: 5%;"><input checked="" type="checkbox"/></td><td>Basis of the opinion</td></tr><tr><td>II</td><td><input type="checkbox"/></td><td>Priority</td></tr><tr><td>III</td><td><input type="checkbox"/></td><td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td></tr><tr><td>IV</td><td><input type="checkbox"/></td><td>Lack of unity of invention</td></tr><tr><td>V</td><td><input checked="" type="checkbox"/></td><td>Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td></tr><tr><td>VI</td><td><input type="checkbox"/></td><td>Certain documents cited</td></tr><tr><td>VII</td><td><input type="checkbox"/></td><td>Certain defects in the international application</td></tr><tr><td>VIII</td><td><input type="checkbox"/></td><td>Certain observations on the international application</td></tr></table>			I	<input checked="" type="checkbox"/>	Basis of the opinion	II	<input type="checkbox"/>	Priority	III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	IV	<input type="checkbox"/>	Lack of unity of invention	V	<input checked="" type="checkbox"/>	Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	VI	<input type="checkbox"/>	Certain documents cited	VII	<input type="checkbox"/>	Certain defects in the international application	VIII	<input type="checkbox"/>	Certain observations on the international application
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Date of submission of the demand 05.03.2004	Date of completion of this report 14.01.2005																									
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Fourgeaud, D Telephone No. +49 89 2399-7047 																									

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/NO 03/00301

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-4 as published

Claims, Numbers

1-3 as published

Drawings, Sheets

1/1 as published

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).
3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:
- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.
4. The amendments have resulted in the cancellation of:
- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-3
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-3
Industrial applicability (IA)	Yes: Claims	1-3
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The following documents were cited in the international search report:

D1: WO 98 41304 A1

D2: EP-A-1 044 7111

D3: US-A-5 695 655

D4: WO 01 00296 A1

D5: US-A-5 266 191

D6: DE 544 054 A1

The documents D4-D6 were not cited in the international search report. Copies of these documents are appended hereto.

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

1.1. The document D5 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document) an apparatus and a method for separating oil from water. In this document, the importance of the velocity of the liquid to be treated (i.e. a mixture of oil and water) to be low at the inlet of the tank is pointed out (see col. 7, lines 41-49).

The disclosure of this document corresponds to the preamble of claim 1 of the present application, with the exception that in D5, an outlet for gas is not explicitly disclosed. However, it is considered to be an evident feature of the container, and a person skilled in the art in practice always use such an outlet for gases (see for example D2). It is a preventive measure.

1.2. Then, the subject-matter of claim 1 differs from this known tank or container disclosed in D5 in that the inlet of said container is connected to a pipe separator, itself connected to the supply container of liquid to be treated, and that said pipe separator extends partially into the container.

1.3. The problem to be solved by the present invention may therefore be regarded as to increase the residence time of the molecules of the mixture all along the path they have to do, in order to improve the oil-water separation.

1.4.1. The solution proposed in claim 1 of the present application cannot be considered as involving an inventive step (Article 33(3) PCT) for the following reasons.

the person skilled in the art has always to keep in mind that the residence time of the liquid molecules is the key of the separation. Then, in order to increase this residence time and improve the separation, he would use all available techniques of the prior art. Such a technique is already disclosed in D1, which is also cited in the application, and which discloses a pipe separator as defined by the applicant. Another very similar technique is also disclosed in D4, which discloses a pipe separator too.

1.4.2. With regards to D5, the problem solved by this invention is the same as in the present application. In particular in D5, the skilled person already knows that the velocity of the incoming fluid to be treated in the container should be reduced by providing adequate means between the inlet and the supply pipe (see Figure 8). The skilled man is aware of the disclosure of both D4 and D1. He knows that the pipes disclosed in these documents allow him to realize the separation oil-water. Then, he would find a benefit in providing one of said pipe on the supply pipe, without being inventive, so as to make a "pre-separation".

Then, the subject-matter of claim 1 of the present application, which results in a combination of a known prior art container with a separator pipe, as the applicant himself recognizes (page 1, lines 21-23 of the present application), does not involve an inventive step in the sense of Article 33(3) PCT, since it is considered as being a logical and normal procedure for a person skilled in the art.

1.5. It is pointed out that the term "pipe separator" used in present claim 1, whereas it is defined in the application, does not meet the requirements of article 6 PCT, since it is not clear what is clearly meant in said claim.

For example, a skilled person who knows the disclosure of D2 could consider that this document also discloses a pipe separator, with supplementary appropriate outlets for oil, water and gases.

Then, in this case, and for the same reasons as mentioned above, a combination of D2 with D5 would lead to the subject-matter of claim 1, which would not involve an inventive step too (Article 33(3) PCT).

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1.6. Dependent claims 2-3 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step, see documents D1-D6 and the corresponding passages cited in the search report.

1.7. The industrial applicability is evident from the foregoing (Article 33(4) PCT).